

PRELIMINARY REVISION OF THE NORTH AMERICAN SPECIES OF CHRYSOSPLENIUM.¹

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FOUR species of *Chrysosplenium* are here recognized as belonging to North America. One of these, although it has been long represented in our larger herbaria, has never before been published; another (*C. tetrandrum*) has been considered a variety of *C. alternifolium* by recent monographers. After the examination of much material I have been forced to restore it to specific rank. The name *C. glechomaefolium* of Nuttall must give place to the older varietal name *Scouleri* of Hooker.

The genus is naturally separated into two groups by the leaves, one having them opposite and the other alternate. In America we have two species in each group; of the opposite-leaved group one species is western and one eastern; of the alternate leaved group one species is known only from the Pribilof islands, while the other is high northern, but extends in the Rocky mountains as far south as Colorado, with an isolated form or variety in Iowa.

Although not found in America, *C. alternifolium* is included in the subjoined key on account of its confusion with *C. tetrandrum*.

* *Leaves all alternate.*

+ *Rootstock wanting: stolons slender: flowers yellow: disk inconspicuous or wanting: seeds many.*

++ *Stamens 8: leaves large, dull, veined, thin, spotted.*

CHRYSOSPLENIUM ALTERNIFOLIUM L. Sp. 1: 398. 1753.

Stems 5 to 15^{cm} high, 1 to 3-leaved: leaves thin, veined; radical leaves reniform, cordate at base, the sinus often closed,

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15 to 36^{mm} wide, crenations 6 to 15, sometimes overlapping, broad and truncate or retuse, dull above, pale beneath: cells of leaves and calyx generally developing brown bodies giving the appearance of pellucid dots: stamens 8: seeds indefinite.

Europe and Asia.

++ ++ *Stamens 4: leaves minute, shining, indistinctly veined, not spotted.*

CHRYSOSPLENIUM TETRANDRUM Fries, Bot. Notis. 193. 1858.

Chrysosplenium alternifolium tetrandrum Lund, Bull. Acad. Sci. St. Petersb. 23: 343. 1877.

Stems 1.2 to 7.5^{cm} high, very slender, 1 to 3-leaved: leaves thickish, with indistinct veins; radical leaves very small, 4 to 11^{mm} wide, crenations 3 to 7, more or less rounded, shining above, paler beneath: cells of leaves developing no dark bodies: stamens 4, opposite the sepals: seeds small, numerous (sometimes 50 or more).

Arctic regions. In America as far south as Colorado.

In the United States there are only two stations recorded for this species. One of these is in Colorado, where the plant was collected by Hall and Harbour in 1862 (no. 576). The plant, curiously enough, has not been found since. The other locality is at Decorah, Iowa, where it has been collected a number of times by Professor E. W. D. Holway. This latter form may yet prove distinct. It is somewhat larger, with slightly different leaves, and with six or seven stamens.

+ + *Rootstock thick: stolons wanting: flowers reddish: disk prominent: seeds few.*

Chrysosplenium Beringianum Rose, sp. nov.

Rootstock 2.5 to 5^{cm} long (?), creeping, sending off many long fibrous roots; radical leaves and stems several, spreading and forming a dense rosette: radical leaves small; petiole slender, 1.3 to 4.5^{cm} long, broader at base, the margins (especially below) ciliate with long purplish hairs; blade reniform, 6 to 11^{mm} broad, 4 to 5-crenate, crenations sometimes gland-tipped, thickish, pale and glabrous below, dark green and glabrous or somewhat pilose above: stem 2.5 to 5^{cm} high, naked or bearing a single leaf below the involucre; involucreal leaves

several, entire or 3-crenate, extending beyond the flowers: calyx 5 to 6^{mm} broad, 4-lobed, purplish or becoming so; sepals very broad, nearly orbicular, rounded at apex; disk very prominent, strongly 8-lobed; fruiting calyx turbinate, 1^{mm} high: capsule 2-horned, 6 to 10-seeded; seeds oblong, 0.5^{mm} long, shining, delicately reticulated.

Collected by C. Hart Merriam on St Paul Island, August 7, 1891, and described in the Proceedings of the Biological Society without specific name; since collected on the same island by Mr. F. W. True and D. W. Prentiss, Jr., August 6, 1895 (no. 66), and by Mr. James M. Macoun, July 6, 1892, and 1896; subsequently by Mr. Beaman on St. Paul, and one specimen by Dr. Dall in "Alaska."

This species has been confused with *C. alternifolium*, from which it appears to be abundantly distinct. *C. alternifolium* differs in its habit in lacking the thickish rootstocks and possessing only slender stolons and filiform roots; in its larger, usually much larger leaves, more numerous and generally double crenations, the smaller indentations containing a gland, or when simply crenate each crenation gland-tipped, thin, membranaceous in texture (when dry), paler in color; petioles with margins usually glabrous but sometimes ciliate with a few white hairs.

Our form, which resembles *C. tetrandrum* in the size and shape of the leaves, has 8 stamens instead of 4, purple instead of greenish flowers, larger and definite seeds (6 to 10 instead of 30 to 50), stronger-lobed disk, and apparently differs also in its habit.

In the study of this species I have had all the material from the Gray Herbarium, Columbia College Herbarium, Herbarium of the Natural History Survey of Canada, Herbarium of the Philadelphia Academy of Science, and National Herbarium. I also sent specimens to Kew and received the assurance that it "differs from everything else at Kew." Mr. James M. Macoun has also studied it in connection with the material at Kew and the British Museum, but finds nothing like it.

This species will be redescribed and figured in the forthcoming Catalogue of the Plants of the Pribilof Islands by Mr. James Macoun, which will appear in the formal report of the Fur Seal Commission now in press.

* * *Lower leaves all opposite.*

+ *Leaves orbicular, abruptly petioled, with few coarse crenations: flowers sessile or nearly so: eastern.*

CHRYSOSPENIUM AMERICANUM Schwein. Hook. Fl. Bor. Am.
1:242. 1834.

Canada and Minnesota southward.

+ + *Leaves orbicular, more or less cuneate at base, strongly and abundantly crenate: flowers clearly pedicelled: western.*

Chrysosplenium Scouleri (Hook.) Rose.

Chrysosplenium oppositifolium Scouleri Hook. Fl. Bor. Amer. 1:242. 1834.

Chrysosplenium glechomaefolium Nutt. in Torr. & Gr. Fl. 1:589. 1840.

Oregon and Washington.

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